What is claimed is:

1. A process for injection molding a hollow plastic tubular article comprising the steps of:

(a) injecting a quantity of plastic material into a mold cavity to at least substantially fill said mold cavity, the mold cavity having a substantially cone-shaped inlet portion, an elongated central portion and an exit portion;

(b) injecting pressurized gas into the plastic material in the mold cavity;

(c) holding the pressure of the gas and plastic in the mold cavity for a predetermined amount of time; and

(d) allowing a portion of the plastic material in the mold cavity to be expelled into at least one secondary cavity coupled to the mold cavity.

2. The process as set forth in claim 1 further comprising the steps of:

(e) permitting the plastic material to solidify;

(f) exhausting the gas from the mold cavity; and

(g) removing the plastic article from the mold.

3. The process as set forth in claim 1 wherein said cone-shaped portion has an apex and said gas is injected into the plastic material at said apex.

4. The process as set forth in claim 1 further comprising the step of holding constant the plastic material injection pressure in the mold cavity for a predetermined period of time prior to the injection of gas into the plastic material.

5. The process as set forth in claim 1 wherein said plastic material is injected into the mold cavity from an injection molding machine with a barrel and nozzle, said method further comprising the step of allowing a

portion of the plastic material in the mold to be expelled back into the barrel of the injection molding machine.

6. The process as set forth in claim 1 wherein said exit portion comprises a second substantially cone-shaped portion, said cone-shaped exit portion having an apex and said expulsion of plastic material from the mold cavity into the secondary cavity occurs through said apex.

7. The process as set forth in claim 1 further calculating the volume of said at least one secondary cavity in order to allow expulsion of a predetermined amount of plastic material from the mold cavity.

8. The process as set forth in claim 1 wherein the step of allowing a portion of the plastic material in the mold to be expelled comprises opening a valve member in a conduit connecting the mold cavity with the secondary cavity.

9. The process as set forth in claim 1 wherein the plastic material is injected into the mold cavity at said cone-shaped inlet portion and enters the mold cavity along the outer surfaces thereof.

10. The process as set forth in claim 9 further comprising a ring gate mechanism for injecting the plastic material into said cone-shaped inlet portion.

11. A process for injection molding a hollow plastic tubular article comprising the steps of:

(a) injecting a quantity of plastic material to fill or substantially fill a mold cavity, the mold cavity having a first substantially cone-shaped inlet portion, an elongated central portion and an exit portion;

(b) injecting pressurized gas into the plastic material in the mold cavity;

(c) holding the pressure of the gas and plastic in the mold cavity for a predetermined amount of time;

(d) allowing a portion of the plastic material in the mold cavity to be expelled into at least one secondary cavity coupled to the mold cavity;

(e) permitting the plastic material to solidify;

(f) exhausting the gas from the mold cavity;

(g) removing the tubular-shaped plastic article from the mold; and

(h) trimming at least one end of the article to form a tubular article of substantially constant cross-section.

12. The process as set forth in claim 11 wherein said cone-shaped inlet portion has an apex and said gas is injected into the plastic material in said apex.

13. The process as set forth in claim 11 further comprising the step of holding constant the plastic material injection pressure in the mold cavity for a predetermined period of time prior to the injection of gas into the plastic material.

14. The process as set forth in claim 11 wherein said plastic material is injected into the mold cavity from an injection molding machine with a barrel and nozzle, said method further comprising the step of allowing a portion of the plastic material in the mold to be expelled back into the barrel of the injection molding machine.

15. The process as set forth in claim 11 wherein said exit portion comprises a substantially cone-shaped portion, said cone-shaped exit portion having an apex and said expulsion of plastic material from the mold cavity in the secondary cavity occurs through said apex.

16. The process as set forth in claim 11 further calculating the volume of said at least one secondary cavity in order to allow expulsion of a predetermined amount of plastic material from the mold cavity.

17. The process as set forth in claim 11 wherein the step of allowing a portion of the plastic material in the mold to be expelled comprises opening a valve member in a conduit connecting the mold cavity with the secondary cavity.

18. A process for injection molding a hollow tubular plastic article utilizing an injection molding machine with a barrel and nozzle and a mold with a mold cavity therein, the mold cavity having a substantially cone-shaped inlet portion, an elongated central portion and an exit portion, said method comprising the steps of:

(a) injecting a quantity of plastic material into said cone-shaped inlet portion of the mold cavity from the injection molding machine;

(b) injecting pressurized gas into the plastic material in the mold cavity; and

(c) allowing a first portion of the plastic material in the mold cavity to be expelled back into the barrel of the injection molding machine.

19. The process as set forth in claim 18 further comprising the step of holding the constant pressure of the gas and plastic material in the mold cavity for a predetermined amount of time before said first portion of the plastic material is expelled back into the injection molding machine.

20. The process as set forth in claim 18 wherein a predetermined amount of plastic material is expelled back into the injection molding machine.

21. The process as set forth in claim 18 wherein the gas is injected into the plastic material from said exit portion.

22. The process as set forth in claim 18 wherein the plastic material is injected into the mold cavity at said cone-shaped inlet portion and enters the mold cavity along the outer surfaces thereof.

23. The process as set forth in claim 22 further comprising a ring gate mechanism for injecting the plastic material into said cone-shaped inlet portion.

24. The process as set forth in claim 18 wherein the step of allowing a first portion of the plastic material in the mold to be expelled back into the barrel of the injection molding machine comprises opening a shut-off valve member positioned between said mold cavity and said barrel.

25. The process as set forth in claim 24 wherein said valve member is included as part of the nozzle.